Development of Creative Advertisement Console for Squeeze Frame and Running Text

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Abstract: Creative Advertisement is a promotion media used by owner to stick the brand in the memory of their market. As a promotional technique by placing a brand in an impression either in youtube or television programs or movies without fomarly mentioned, creative advertisement is able to familiarize the brand in the memory of the audience without any disturbance. There are various type of creative advertisement,for example squeeze frame and running text.Process running a squeeze frame and running text set in a VMix software. However because the VMix software is a virtual mixer that runs with using keyboard and mouse, then there are limitations in running the software. In this paper, an alternative tool is made that can be used when running the VMix software in the form of a console. Where in the previous function console only regulates audio video input, so in this research is carried out develompment to manage squeeze frames and running text. By using Arduino Uno CH340 as micro controller. The results of this research, console hardware runs well, both for the squeeze frame merger button and the key overlay button for running text. The responses of respondents is interested in this console with a percentage of 95.8 %.

1 INTRODUCTION

Along with the development of multimedia technology,the development of creative advertisement is also increasing. Many companies use creative advertisement. This is one of the tools of promotion of the product that it offers. Creative Advertisement is closely related to Brand Placements. Brand Placement itself is a promotional technique advertising to place or embed a brand or products in films or television programs without being referred to formal (passive). According to (Karrh, 1998), brand placement can defined as a payment for inclusion in the brand of a product or service the identity of a brand, consisting of audio and/or visual, in a media program mass. The purpose of this technique is to persuade potential consumers by 'familiarizing' a brand in their memory. Main idea of this technique is that people will not change the channel when encountering an advertisement inserted in a commercial film (Avery, Ferraro, 2000). There are several types of Creative Advertisement among work ups, digital frames, squeeze frame, running text, superimpose logo, backdrop, adlips and video tape.In running various types of creative advertisement on a video then do a video mixing.

To do the video mixing process, you can use the following tools: in the form of a video mixer. However, video mixers on the market have a price which is very expensive, therefore it is necessary to make a video mixer at a low cost cheaper and more efficient.

One of the technologies that can be used to create a video mixer with a cheaper price,VMix software. This software is used for broadcasters that have features such as switchers and mixers. This software can used for free with enough features to mix videos. However, because VMix is a virtual video mixer that runs with using a mouse and keyboard, there are some limitations when run the software. As an alternative to running software VMix, a console, a physical tool that can control every feature in the software without having to click with the mouse or button keyboard shortcuts.

Console tool are usually used in medical in the form of a robotic console as a tool when performing surgery (Erik, Susan, 2020). In Audio, mixing console is a hardware that is used for both recording and mixing audio in a studio.There are three main functionalities of mixing console i.e summing, main procees on mixing console is to combining the audio

signals, processing is audio process in equalizer, routing is an audio process for effect and grouping.

According to (Ade, 2020), Virtual Mixing console is made for audio in music show.The Arduino Uno-based console is built and integrated with VMix software. But in this console only use for Audio.

Audio Video VMix console can also be used for streaming on youtube (Citra, Astin, 2021). VMix software is connected with live streaming on youtube so the console can control the video that is being broadcast on youtube streaming. The weakness of this console is only can play video.

In this paper we purpose the VMix Console for Creative Advertisement was created as an alternative tool that can be used when running software VMix. This tool can control every feature for mixing and switching videos as well as advertising media in the VMix software so that users can control VMix more easily and efficiently and be able to broadcast it remotely to meet broadcasting needs during the pandemic.

2 TEORETICAL BASIC

2.1 Creative Advertisement

Define Advertising can be meaningful as a tool to form brand awareness, brand preference, brand equity and even brand loyalty and increase sales of a product. According to (O'Guinn, 2003) defines it as: "Advertising is a paid, mass mediated attempt to persuade". So according to O 'Guinn advertising is a form of communication that must contain at least 3 basic components, namely the form of communication must be paid, must be conveyed to the audience through the mass media and this form of communication must be an effort to persuade (must be trying persuasion).

Along with the development of technology, the media for advertising also growing. In order for advertising to achieve an audience response as intended wants, advertising must be done creatively. Creative advertising can be realized through the creative process of advertising. (Belch & Belch, 2004) stated that advertising creativity is the ability to generate fresh, unique, and appropriate ideas that can be used as solutions to communications problems. To make the right idea effective, and creative, it must be relevant to the target audience. In addition, you must also pay attention to the structure of the ad and it is important to determine the objective (response) of advertising based on communication model that explains the impact of

communication on response someone.

2.2 Squeeze Frame

One form of creative advertising is squeeze frames. Squeeze frames is a term used in the broadcast world that is intended when reduce the image size without changing the aspect ratio of the image so it will create an empty spot in the form of an angle (L), and a space.This blank is used to put information and promotions can be in the form of images or moving animations. With an angled shape, then the coverage area is wide enough, so that information and promotions can be conveyed complete. This type of display time ranges from 5 to 8 seconds.

2.3 Running Text

Running text is a medium that used to convey information or promotion. Running text can found in various places such as on Megatron, electronic banners, broadcasts youtube and on television, and also their placement is usually more often bottom position. The way this running text works is by moving the text which contains information / promotions from the bottom right side straight to the left until is at the end point which is the lower left corner. As technology develop running text is not just a text only but can display certain images or logos and with certain animations.

2.4 VMix Software

VMix is a video mixer and switcher software that utilizes recent advances in computer hardware to provide video live HD mixing, a task previously only possible done with expensive dedicated mixer hardware. The VMix software has dashboard display like other livestream software dashboard displays. The features that VMix has are very capable to be used when perform live streaming with very good quality.This software canvaccept input from webcam video cameras to video cameras with high quality 4K, NDI, video files(AVI, MP4, H264, MPEG-2, WMV, MOV and MXF), DVDs, audio files (MP3 and WAV), SoundCards, web browsers, RTSP, Powerpoint, photos, solid color and many others (Citra et al., 2021).

Specifications on a laptop or computer are an important factor for run the VMix software so that it can be used optimally. Better the specifications of the laptop or computer used can improve convenience for the user when using it. Minimum specifications that needed to run the VMix software

include:

- Operating System: Windows 7 or Higher
- Processor: 2GHz Dual-Core Processor
- Memory: 2GB DDR3
- Hard Drive : 7200 RPM Hard Drive (for recordings)
- Graphics Card : DirectX 10.1 Compatible
- Screen Resolution : 1280x720

The speed of the software is very dependent on the graphics card used.The more inputs and the better the quality of the output produced, then should the faster the graphics card used.

2.5 Arduino Uno CH340

Arduino is an open source electronic platform that is easy to use its use (easy to use) both hardware and software. In other words, Arduino is a basic system consisting of hardware and software which prioritizes its use. The core of Arduino is the microcontroller of various types. Arduino Uno is one type of Arduino which has a series of rectifier and chipCH-340 as a serial to USB converter.

2.6 USE Questionnaire

USE Questionnaire is a form of questionnaire to assist in measuring the usability of products and services subjectively their usefulness which consists of 30 questions grouped into 4 dimensions, including: usability, ease of use, ease of learning and satisfaction.The USE Questionnaire is a form of questionnaire to assist in measurement subjective usability of products and services usefulness which consists of 30 questions that grouped into 4 dimensions, including: usability, ease of use, ease of learning and satisfaction (Gao et al., 2018). The USE Questionnaire is frequently used to measure the feasibility of a good system that carried out on the measurement of User usability Experience of UMM Online KRS System (Kusuma et al., 2016), measuring the usability of the SMK information system Negeri 3 Makassar (Rahman & Vitalocca, 2018), and measuring the usability of decision support systems selection of labor candidates (Lisnawanty et al., 2020).

3 SYSTEM DESIGN

3.1 Console System Design

In this section we will explain system design of the creative advertisement console. As for the chart of the process research are as follows:
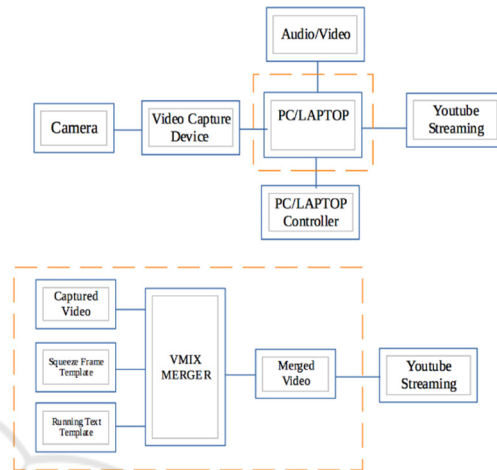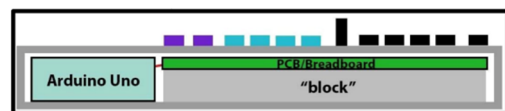

Figure 1: System design of creative advertisement console.

The console include Arduino Uno CH340, 4 preview buttons, 4 active buttons, 3 transition buttons, 4 sliders, a fader master volume, a T-Bar and breadboard. The tools needed are computer/laptop, solder and tin. The VMix console will function as a controller that which will control the function keys in the VMix.Console VMix software will be connected to a laptop or computer with a USB cable. When designing a product, it is necessary to pay attention to such as size and shape which makes it easier for the user to use. The product will be made like a block that is has several buttons and sliders that have their own functions.

(a) top view

(b) side view

Figure 2: Design Product of creative advertisement console.

The first step we take is to design an electronic circuit on the PCB. Then we install the components according to the circuit design.
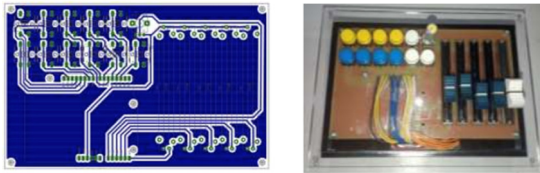

Figure 3: Assembly of creative advertisement console.

Inside of the VMix Console, there is an array of Arduino Uno and Breadboard which is used to connect the cable from Arduino Uno to the existing breadboard is installed with a button.

After all the components have been installed, the next step is to install the case. The product assembly stage is the core stage in the tool-making process. The first step that must be done is to install some software necessary tools such as VMix, Hairless MIDI to Serial Bridge, loopMIDI, and XLloader. Then the next step is to connect the Arduino Uno CH340, knobs,slider and fader. After the software and hardware are ready, then the next process is manage serial communication between hardware and software so that they can be connected.

3.2 Creative Advertisement Production

Squeeze Frames are advertisements that appear while a TV program is still going on and the condition of the TV screen of the TV program is proportionally smaller then advertisements appeared around him. The size itself depends on the standards set each TV station. Likewise with the shape, some are in the form of the letter L some are rectangular. Making a squeeze frame template is done on Adobe After Effects software. The squeeze frame template is a video with an .mp4 extension. Running Text contains about a information or products whose position is below. Creating running text done using adobe premiere.

Figure 4: Example of Squeeze frame and running text.

4 PERFORMANCE EVALUATION

In this section we will do the testing process to find out if the console is running as expected.

4.1 VMix Software Test

Testing on live streams in VMix software went smoothly. To display a squeeze frame video, press the merger button. This will display the video squeeze frame into the main video that is currently playing. The Squeeze frame video will be visible at the bottom and sides of the main video. The duration of the squeeze frame video is 15 seconds. The squeeze frame video will close automatically after 15 seconds. The results of the merger button experiment are shown in table 1.

Table 1: Squeeze Frame Experiment.

No	Button	Task Description	Status
1	Merger	display the video squeeze frame into the main video that is currently playing	Succed

On the squeeze frame, we show a video of public service advertisements related to covid vaccination so that it can increase public awareness to vaccinate. The result of video squeeze frame are shown in figure 5.

Figure 5: The result of video squeeze frame.

Meanwhile, to display the running text by pressing the key overlay button. Then running text will appear from the bottom right of the monitor running to the right. The duration of the running text depends on the amount of information that will be conveyed in the running text. When all the information has been submitted running text will be closed by itself. The results of the key overlay button experiment are shown in table 2.

Table 2: Running Text Experiment.

No	Button	Task Description	Status
1	Key Overlay	display the running text into the main video that is currently playing	Succed

On the running text display, we provide information related to the pandemic so that the wider community can gets as much information as possible regarding the corona virus. The process of running text are shown in figure 6.
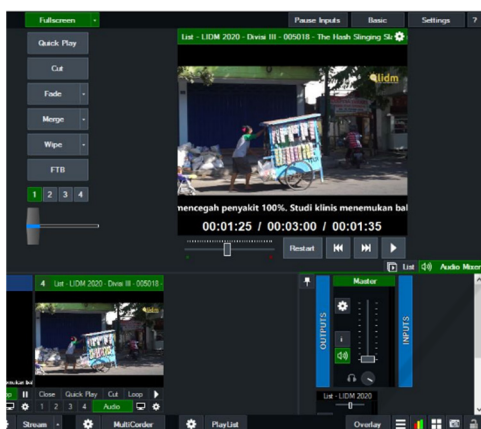

Figure 6: The process of video running text.

4.2 Hardware Test

The hardware console test is intended to analyze the performance of the hardware that has been made whether it is as expected, the following are the results of hardware performance analysis that uses the USE Questionnaire. Figure 7 show the process of VMix Console for creative advertisement.

Figure 7: The process of VMix Console.

The hardware will be tested with 30 respondents on how well the console performance is presented to the user. Respondents are students majoring in broadcasting, age 20 – 25 years old. Table 3 shows the results on the USE Questionnaire that the console

runs well and is user friendly for all users. We conduct the USE Questionnaire three times a week to test the reliability of this console. The formula to find out the results of the questionnaire is :

$$\text{Score}_{max} = N \times nbv \times \text{scale}_{Max}^2 \qquad (1)$$

$$\text{Score}_{observe} = \sum_{k=0}^{N} \sum_{i=0}^{30} scale$$

N : the number of respondents
nbv : the value of valid question items
scale max : the maximum scale
score max: the maximum score
scale : the scale value filled by respondent
score observe : the observation score.

Table 3: Result of use questionnaire.

No	Aspect	Average Value 1	Average Value 2	Average Value 3
1	Usefulness	96 %	95.5 %	97 %
2	Ease of Use	93.5 %	95 %	95.5 %
3	Ease of Learning	94 %	94 %	95 %
4	Satisfication	94.5 %	95 %	96 %
	Overall Average	94.5 %	94.8 %	95.8 %

On the first performance test, for the usefulness aspect, an average value of 96 % is obtained. On the second performance test is 95.5 % and third performance test is 97 %. Ease of Use aspect get the highest value on the third performance test with 95.5 %. The highest value is also get on the third performance for Ease of Learning aspect with the value 95 %. Satisfication aspect get 94.5 % on the first performance test, 95 % on second performance test and 96 % on third performance test. With four aspect and three time performance test,then the highest average result obtained 95.8 %

5 CONCLUSION

In this paper we presented to attract public interest is by using creative advertising in the form of squeeze frames and running text. In addition to attracting more attention, the operation of squeeze frames and running text is much easier using the console. By using the console, creative advertising operations can be carried out remotely and more flexibly. The results of this research also show that 95.8% of respondents are interested in this console in terms of usefulness, ease of use, ease of learning and satisfaction.

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